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ABSTRACT

Data were collected from the Air Training Command personnel processing files on non-prior-service accessions for male and female basic trainees entering the Air Force during the years 1970 through 1973. Data included age, Airman Qualifying Examination (AQE) aptitude indexes, years of education, race, and geographic area of enlistment. Tables show AQE aptitude index means and standard deviations by sex and year of enlistment; percentage by sex in score range on AQE composites and at each index; number and percentage by sex for educational level and for racial subgroup; and racial composition by geographic area of enlistment. Conclusions, based on the data, were that: (1) using 1970 as a comparative base the 1973 aptitude indexes declined less sharply for females than males and two indexes (Mechanical and Electronics) were higher for females in 1973 than in 1970; (2) the educational level of females has risen, that for males has declined; (3) racial mix is the same for males and females but recruitment of black females varies considerably among recruiting areas; and (4) younger females tend to have relatively lower aptitude scores. (SA)

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AIR FORCE HUMAN RESOURCES LABORATORY

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CHARACTERISTICS OF WOMEN IN THE AIR FORCE 1970 THROUGH 1973

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July 1974

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AIR FORCE SYSTEMS COMMAND
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The total input of WAF enlistees for 1970 through 1973 (N=20,048) were compared with male enlistees for the same period (N=124,935). WAF AQE-A and AQE-C scores in 1973 have dropped less than those for males relative to 1970. WAF AQE-M and AQE-E scores in 1973 were higher than they were in 1970, whereas similar scores for males have declined slightly. Educational level for males has declined in the years 1970-1973, whereas, for WAF, it has climbed somewhat. Racial mix for females is about the same as for males, but the contribution by Blacks, one recruiting area to the total number of Black women in the Air Force varies considerably from area to area. As with males, the younger females tend to have lower aptitude scores.

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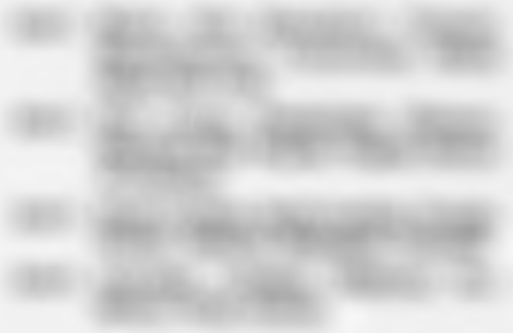

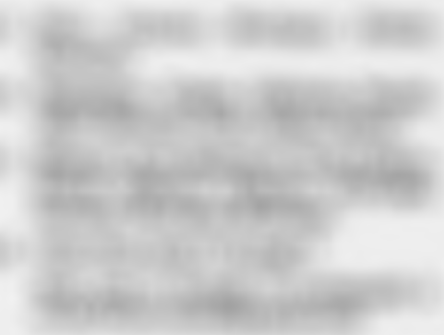

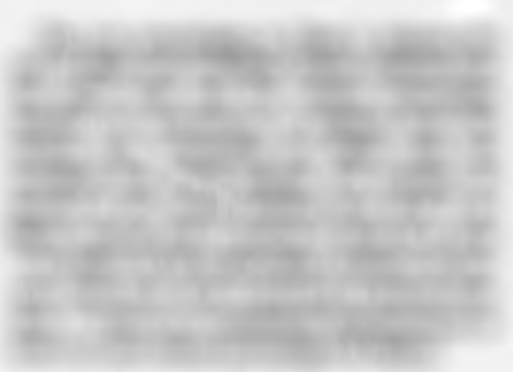

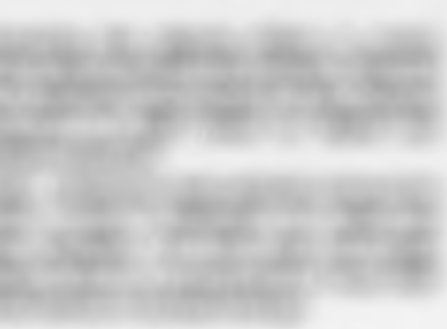

APPENDIX A: RACIAL SUBGROUP DISTRIBUTIONS FOR 1970 THROUGH 1973 FEMALE ENLISTEES BY SELECTION TEST MEASURE, EDUCATIONAL LEVEL, AGE, AND ENLISTMENT REGION

Table A1. **Average AQE Aptitude Indexes for 1970 Through 1973 Female Air Force Enlistees by Racial Subgroup**

Aptitude Composite	Mean and SD on Selection Measure							
	1970		1971		1972		1973	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Black								
AQE-Mechanical	28.8	17.0	26.3	16.7	28.9	16.5	31.6	17.9
AQE-Administrative	65.2	12.1	63.4	11.7	62.9	11.8	59.1	15.4
AQE-General	64.2	11.5	62.1	10.6	62.7	10.9	57.3	13.7
AQE-Electronics	42.1	17.2	40.8	16.4	41.9	15.9	42.1	17.1
Non-Black								
AQE-Mechanical	34.2	19.1	34.3	19.3	37.1	18.9	40.9	18.9
AQE-Administrative	70.9	13.8	69.9	13.9	69.3	13.7	65.4	15.9
AQE-General	70.7	12.7	70.1	12.8	69.6	12.9	66.4	15.3
AQE-Electronics	51.9	18.2	51.9	18.5	53.4	17.8	54.9	18.5

Table A2. **Cumulative Percentages of AQE Aptitude Indexes for 1970 Through 1973 Female Air Force Enlistees by Racial Subgroup**

AQE Aptitude Index	Percentage by Racial Subgroup in Score Range on AQE Composite							
	1970		1971		1972		1973	
	Black %	Non-Black %	Black %	Non-Black %	Black %	Non-Black %	Black %	Non-Black %
Mechanical Composite								
80 and above	0	2	0	2	0	2	1	3
60 and above	3	11	3	10	4	14	8	19
40 and above	31	41	26	42	30	47	36	56
Administrative Composite								
80 and above	17	35	12	32	11	29	11	23
60 and above	76	83	75	84	77	84	60	72
40 and above	100	100	99	99	98	99	93	96
General Composite								
80 and above	14	34	8	32	10	30	8	25
60 and above	74	85	71	87	75	87	54	75
40 and above	100	100	99	99	100	99	95	98
Electronics Composite								
80 and above	2	10	1	10	2	11	3	14
60 and above	19	38	14	39	17	40	17	43
40 and above	63	80	61	80	61	84	63	84

Table A3. **Percentage of 1970 Through 1973 Female Enlistees by Racial Subgroup With Very High AQE Scores**

Index Centile	Percent of Racial Subgroup Scoring at Each Aptitude Index Centile							
	1970		1971		1972		1973	
	Black %	Non-Black %	Black %	Non-Black %	Black %	Non-Black %	Black %	Non-Black %
Mechanical Composite								
95	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	1
85	0	1	0	1	0	1	0	1
80	0	1	0	1	0	1	1	1
Total	0	2	0	2	0	2	1	3
Administrative Composite								
95	1	7	1	7	1	6	2	6
90	4	6	2	5	2	4	2	6
85	4	10	4	8	3	8	3	5
80	8	12	5	12	5	11	4	6
Total	17	35	12	32	11	29	11	23
General Composite								
95	0	4	0	4	0	4	0	6
90	2	5	0	5	1	5	1	4
85	4	12	3	10	3	9	2	6
80	8	13	5	13	6	12	5	9
Total	14	34	8	32	10	30	8	25
Electronics Composite								
95	0	1	0	1	0	1	0	1
90	0	1	.5	2	0	2	1	3
85	0	3	0	2	1	3	1	4
80	2	5	.5	5	1	5	1	6
Total	2	10	1	10	2	11	3	14

Table A4. **Distribution of Education Level for 1970 Through 1973 Female Air Force Enlistees by Racial Subgroup**

Years Schooling Completed	Number and Percent by Racial Subgroup for Each Education Level							
	1970		1971		1972		1973	
	N	%	N	%	N	%	N	%
Black								
16 or more	1	0	0	0	6	1	15	1
13-15	13	2	26	4	36	6	78	7
12	580	98	713	96	586	93	1,101	92
11 or less	0	0	1	0	1	0	2	0
Total	594	100	740	100	629	100	1,196	100
Non-Black								
16 or more	5	0	20	1	58	2	162	2
13-15	198	6	235	6	335	8	555	9
12	3,434	94	3,370	93	3,660	90	5,767	89
11 or less	7	0	6	0	6	0	11	0
Total	3,644	100	3,631	100	4,059	100	6,495	100

Table A5. **AQE Aptitude Indexes by Age and Racial Subgroup for 1970 Female Air Force Enlistees**

Years of Age	Number and Aptitude Index by Racial Subgroup									
	Black					Non-Black				
	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean
18	135	26.2	64.1	61.8	39.5	1,120	33.2	70.6	69.9	50.9
19	223	28.7	65.8	64.6	42.9	1,263	34.0	70.9	70.8	52.8
20	126	27.1	65.9	64.8	43.2	635	36.0	71.5	70.8	52.7
21	61	32.5	65.9	66.4	44.1	308	35.3	71.8	71.5	52.5
22	27	30.8	64.4	66.1	41.7	154	35.9	71.4	73.2	54.3
23	9	21.2	65.6	60.0	43.3	70	32.2	72.5	70.9	50.3
24	13	27.8	63.8	62.3	40.4	90	31.7	73.2	71.9	51.8
Total	594	28.8	65.2	64.2	42.1	3,644	34.2	70.9	70.7	51.9

Table A6. **AQE Aptitude Indexes by Age and Racial Subgroup for 1971 Female Air Force Enlistees**

Years of Age	Number and Aptitude Index by Racial Subgroup									
	Black					Non-Black				
	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean
18	117	24.8	62.9	61.5	40.2	877	33.8	69.5	69.5	51.5
19	261	25.5	63.2	61.8	40.3	1,188	34.3	69.7	69.7	51.8
20	164	26.2	63.9	62.3	40.5	692	35.4	69.9	69.8	52.1
21	82	26.4	64.8	62.9	41.2	338	35.5	69.9	70.7	52.6
22	64	27.5	62.3	63.0	42.9	232	32.5	71.6	70.9	51.8
23	23	25.5	65.2	63.7	43.0	139	33.8	72.3	71.7	51.8
24+	29	23.8	63.9	61.7	39.3	165	34.5	71.4	72.6	52.4
Total	740	26.3	63.4	62.1	40.8	3,631	34.3	69.9	70.1	51.9

Table A7. **AQE Apptitude Indexes by Age and Racial Subgroup for 19972 Female Air Force Enlistee**

Years of Age	Number and Aptitude Index by Racial Subgroup									
	Black					Non-Black				
	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean
18	129	26.6	61.8	61.4	40.5	897	36.1	68.6	68.6	52.3
19	192	27.7	61.7	62.2	40.9	1,273	36.8	68.8	68.8	53.4
20	119	28.5	62.6	62.9	42.6	737	36.3	69.1	69.5	53.0
21	76	29.6	64.5	62.6	42.6	425	37.6	69.7	70.2	53.8
22	48	31.3	65.4	64.1	45.8	280	39.1	70.4	72.1	55.1
23	17	28.9	59.7	62.9	38.8	166	40.0	70.0	71.8	55.0
24+	48	29.1	64.5	65.4	42.2	281	38.6	72.4	72.5	55.1
Total	629	28.9	62.9	62.7	41.9	4,059	37.1	69.3	69.6	53.4

Table A8. **AQE Apptitude Indexes by Age and Racial Subgroup for 19973 Female Air Force Enlistees**

Years of Age	Number and Aptitude Index by Racial Subgroup									
	Black					Non-Black				
	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean	N	Mech Mean	Admin Mean	Gen Mean	Elec Mean
18	223	30.9	58.6	55.9	40.6	1,318	39.2	63.8	64.9	52.9
19	315	31.3	58.9	56.4	41.7	1,847	39.9	64.0	65.4	54.3
20	216	33.9	59.2	57.4	42.6	1,128	41.3	64.2	65.5	55.7
21	140	30.7	59.8	59.1	43.7	723	42.1	66.9	67.5	56.5
22	104	31.4	59.5	59.4	43.5	480	42.8	67.4	68.4	55.3
23	67	26.2	59.2	56.0	38.4	338	43.2	68.3	69.0	56.7
24+	131	33.2	59.8	59.2	43.3	661	43.3	69.8	70.0	57.6
Total	1,196	31.6	59.1	57.3	42.1	6,495	40.9	65.4	66.4	54.9

Table A9. Mean WAF Scores on AQE Aptitude Composites for Racial Subgroups and Total Sample by Enlistment Region, 1973[a]

Region of Enlistment	Black			Non-Black			Total (a) (with		
	n	Mean	SD	n	Mean	SD	n	Mean	SD
Mechanical									
1. ME, NH, VT, MA, RI, NY, CT	109	29	16	880	41	19	989	39	19
2. NJ, PA, DE, MD, WV, VA, DC	212	32	17	828	39	19	1,040	38	19
3. NC, SC, GA, FL, AL, MS, TN	359	31	18	897	39	19	1,256	37	19
4. AR, LA, OK, NM, TX, AZ	203	30	18	772	40	20	975	38	20
5. OH, IN, MI, IL, KY	191	35	19	1,204	42	18	1,395	41	19
6. WA, OR, CA, NV, ID, MT, UT, AL, HI	77	35	17	1,065	42	19	1,142	41	19
7. MO, IA, MN, ND, SD, KS, NE, CO, WY, WI	45	24	15	838	43	18	883	42	18
8. Other	0	0	0	11	40	18	11	40	18
Total	1,196			6,695			7,691		
Administrative									
1. ME, NH, VT, MA, RI, NY, CT	109	55	15	880	64	16	989	63	16
2. NJ, PA, DE, MD, WV, VA, DC	212	60	14	828	68	16	1,040	66	16
3. NC, SC, GA, FL, AL, MS, TN	359	58	15	897	67	15	1,256	65	16
4. AR, LA, OK, NM, TX, AZ	203	61	15	772	67	15	975	66	15
5. OH, IN, MI, IL, KY	191	60	16	1,204	65	16	1,395	65	16
6. WA, OR, CA, NV, ID, MT, UT, AL, HI	77	59	14	1,065	62	17	1,142	61	16
7. MO, IA, MN, ND, SD, KS, NE, CO, WY, WI	45	62	15	838	66	16	883	66	16
8. Other	0	0	0	11	52	15	11	52	15
Total	1,196			6,695			7,691		
General									
1. ME, NH, VT, MA, RI, NY, CT	109	58	14	880	66	16	989	65	16
2. NJ, PA, DE, MD, WV, VA, DC	212	57	14	828	67	16	1,040	65	16
3. NC, SC, GA, FL, AL, MS, TN	359	55	13	897	67	14	1,256	63	15
4. AR, LA, OK, NM, TX, AZ	203	59	12	772	67	14	975	65	14
5. OH, IN, MI, IL, KY	191	58	14	1,204	66	15	1,395	65	15
6. WA, OR, CA, NV, ID, MT, UT, AL, HI	77	59	13	1,065	65	16	1,142	65	16
7. MO, IA, MN, ND, SD, KS, NE, CO, WY, WI	45	59	15	838	67	16	883	67	16
8. Other	0	0	0	11	57	12	11	57	12
Total	1,196			6,695			7,691		
Electronics									
1. ME, NH, VT, MA, RI, NY, CT	109	43	17	880	55	18	989	54	19
2. NJ, PA, DE, MD, WV, VA, DC	212	42	18	828	54	19	1,040	52	20
3. NC, SC, GA, FL, AL, MS, TN	359	40	17	897	52	18	1,256	48	19
4. AR, LA, OK, NM, TX, AZ	203	38	16	772	54	19	975	51	20
5. OH, IN, MI, IL, KY	191	47	15	1,203	56	17	1,394	55	17
6. WA, OR, CA, NV, ID, MT, UT, AL, HI	77	47	17	1,065	55	19	1,142	55	19
7. MO, IA, MN, ND, SD, KS, NE, CO, WY, WI	45	47	19	838	57	18	883	57	18
8. Other	0	0	0	11	50	21	11	50	21
Total	1,196			6,695			7,691		

[a]Means and Standard Deviations have been rounded to nearest whole number.